

Claims

1. A spinal cord removal tool for removing a spinal cord and spinal cord membrane from a carcass comprising:

a motor;

a housing;

a blade disk mounted in the housing, the motor being connected to the blade disk to drive the blade disk in rotary motion;

a plurality of spinal cord removal blades mounted on the blade disk, each removal blade having a front cutting edge, a left cutting edge and a right cutting edge;

a left side blade mounted for motion towards and away from the left cutting edges of the spinal cord removal blades;

a left side adjustment mechanism for adjusting the left side blade relative to the left cutting edges of the spinal cord removal blades;

a right side blade mounted for motion towards and away from the right cutting edges of the spinal cord removal blades; and

a right side adjustment mechanism for adjusting the right side blade relative to the right cutting edges of the spinal cord removal blades.

2. The spinal cord removal tool according to claim 1 wherein the left side adjustment mechanism comprises a left side self-adjusting mechanism including at least one left side spring mounted to urge the left side blade towards the left cutting edges of the spinal cord removal blades and the right side adjustment mechanism comprises a right side self-adjusting mechanism including at least one right side spring mounted to urge the right side blade towards the right cutting edges of the spinal cord removal blades.

3. The spinal cord removal tool according to claim 2 further including an additional right side spring mounted to cooperate with the at least one right side spring to urge the right side blade towards the right cutting edges of the spinal cord

removal blades and an additional left side spring mounted to cooperate with the at least one left side spring to urge the left side blade towards the left cutting edges of the spinal cord removal blades.

4. The spinal cord removal tool according to claim 2 further including at least one left side shaft perpendicularly mounted relative to a plane of rotation of the blade disk and at least one right side shaft perpendicularly mounted relative to the plane of rotation of the blade disk, the left side blade sliding on the left side shaft towards and away from the left cutting edges of the spinal cord removal blades and the right side blade sliding on the right side shaft towards and away from the right cutting edges of the spinal cord removal blades.

5. The spinal cord removal tool according to claim 2 further including:  
a pair of left side shafts perpendicularly mounted relative to a plane of rotation of the blade disk;  
a pair of right side shafts perpendicularly mounted relative to the plane of rotation of the blade disk;  
an additional right side spring; and  
an additional left side spring;  
the left side blade including a pair of left bearing openings receiving the left side shafts;  
the right side blade including a pair of right bearing openings receiving the right side shafts;  
the right side springs being mounted on the right side shafts to urge the right side blade towards the right cutting edges of the spinal cord removal blades;  
and  
the left side springs being mounted on the left side shafts to urge the left side blade towards the left cutting edges of the spinal cord removal blades.

1 6. The spinal cord removal tool according to claim 2 wherein the right and left  
2 side adjustment mechanisms further include corresponding right and left support  
3 plates, the right support plate being located outside the right side blade and the left  
4 support plate being located outside the left side blade.

1 7. The spinal cord removal tool according to claim 6 wherein the at least one  
2 left side spring is located between the left support plate and the left side blade and  
3 the at least one right side spring is located between the right support plate and the  
4 right side blade.

1 8. The spinal cord removal tool according to claim 2 wherein the right and left  
2 side adjustment mechanisms further include corresponding stops for limiting  
3 outward motion of the side blades relative to the removal blades.

1 9. The spinal cord removal tool according to claim 2 wherein the right and left  
2 side blades include substantially straight cutting edges.

1 10. The spinal cord removal tool according to claim 2 wherein the right side  
2 blade is in substantially continuous contact with at least two removal blades.

1 11. The spinal cord removal tool according to claim 2 wherein the right and left  
2 side blades include curved cutting edges.

1 12. The spinal cord removal tool according to claim 2 wherein the right side  
2 blade is in substantially continuous contact with at least three removal blades.

1 13. The spinal cord removal tool according to claim 2 wherein the right side  
2 blade is slidingly mounted on at least one corresponding right side mounting screw  
3 having an enlarged head and the at least one right side spring is mounted on the at  
4 least one right side mounting screw between the enlarged head thereon and the

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5 right side blade, and the left side blade is slidingly mounted on at least one  
6 corresponding left side mounting screw having an enlarged head and the at least  
7 one left side spring is mounted on the at least one left side mounting screw  
8 between the enlarged head thereon and the left side blade.

1 14. The spinal cord removal tool according to claim 1 wherein the left side  
2 adjustment mechanism comprises a left side manual adjustment mechanism  
3 including at least one left side adjustment screw for moving the left side blade  
4 towards and away from the left cutting edges of the spinal cord removal blades and  
5 the right side adjustment mechanism comprises a right side manual adjustment  
6 mechanism including at least one right side adjustment screw for moving the right  
7 side blade towards and away from the right cutting edges of the spinal cord removal  
8 blades.

1 15. The spinal cord removal tool according to claim 14 wherein the right and  
2 left side manual adjustment mechanisms further include corresponding right and  
3 left side additional adjustment screws, the right side additional adjustment screw  
4 being located at an opposite end of the right side blade from the other right side  
5 adjustment screw and the left side additional adjustment screw being located at an  
6 opposite end of the left side blade from the other left side adjustment screw.

1 16. The spinal cord removal tool according to claim 14 wherein the right and  
2 left side manual adjustment mechanisms further include corresponding right and  
3 left side lock mechanisms for locking the manually adjustable adjustment screws in  
4 a desired position.

1 17. The spinal cord removal tool according to claim 16 wherein the right and  
2 left side lock mechanisms comprise right and left side lock screws for locking  
3 corresponding manually adjustable adjustment screws in a desired position.

1 18. The spinal cord removal tool according to claim 17 wherein each  
2 adjustment screw includes a central bore and the each lock screw extends through  
3 the central bore in the corresponding adjustment screw.

1 19. The spinal cord removal tool according to claim 14 wherein the right and  
2 left side blades have substantially straight side cutting edges.

1 20. The spinal cord removal tool according to claim 14 wherein each  
2 adjustment screw is externally threaded and the right and left side blades have  
3 corresponding internally threaded openings.

1 21. The spinal cord removal tool according to claim 14 wherein each  
2 adjustment screw includes a knurled portion.

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